U.S. Fish & Wildlife Service

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Introduction to EA-Part Two

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To take your understanding of Enterprise Architecture (EA) to the next level, an examination of the five reference models: 1) Technical Reference Model (TRM), 2) Service Component Reference Model (SRM), 3) Performance Reference Model (PRM), 4) Business Reference Model (BRM), and 5) Data Reference Model (DRM) from which the OMB developed the Federal Enterprise Architecture Framework (FEAF) is essential.

The TRM is used to map IT investments to the technology and equipment the organization uses to accomplish its mission. It defines a taxonomy that covers the technical domains of: application development, collaboration/directory services, data management, distributed systems management, information security, geospatial technologies, middleware, network, platform, and web/e-government. Most IT investments include multiple domains. The TRM must be followed to make sound investment decisions for all IT initiatives across the Department.

The SRM helps to identify the services that an IT investment supports. SRM is a business-driven framework that classifies service components according to how they support business objectives. Seven service domains: 1) Back Office, 2) Business Analytical, 3) Business Management, 4) Customer Support, 5) Digital Asset, 6) Process Automation and 7) Support provide a high-level view of the services that support enterprise applications. For domain details see: http://www.doi.gov/ocio/architecture/documents/core/ FEA_SRM.html.

The PRM is considered one of the most important models and provides a framework to measure the performance of major IT initiatives' contributions to program performance. It defines measurement criteria to determine whether or not business objectives align with the organization's mission.

The BRM is as important as the PRM. Both the BRM and PRM directly relate IT investments to IT investment management. The BRM defines and maps an organization's business, function, and process lines to a system's subsystem level. For example, the Environmental Conservation Online System has five subsystems including the Threatened and Endangered Species System (TESS). The BRM DOI-defined process labeled "7R: Conserve Non-Threatened and Endangered Species" is associated with TESS. System managers validate all IT system mappings. The BRM processes are analogous to the Activity Based Cost codes and provide a view of IT investments and activities to determine the fund allocations for an organization.

The DRM is a data model, describes the data that flows through the technology and provides a standard data reference for the Department. Based on the foundation of a "core" set of data standards this core set extends over time as the model matures. System managers choose the technology from the TRM DOI standards.

The implementation of EA has saved the USDA Forest Service millions of dollars and can result in sharing systems and information among bureaus and agencies.

Meet the ES Program Chief Technical Officer Linda Purviance

I think it is important to justify the IT money spent in terms of real benefits to the Service and its programs. We love the technology but the important thing is to facilitate the actual work of the biologists, especially in the Field and Regional Offices.

I wear two hats in my job: First, I coordinate the Environmental Conservation Online System (ECOS), a gateway web site that provides access to data systems in the Endangered Species (ES) and Fisheries and Habitat Conservation (FHC) Programs. ECOS provides a secure single point of access for Service personnel to manage data at https://ecos.fws.gov. And public information is available at http://ecos.fws.gov.

ECOS is a collection of the following large applications: 1) Threatened and Endangered Species System (TESS), 2) Habitat Tracking Information System (HabITS), 3) Fish Passage Decision Support System (FPDSS), 4) Contaminant Assessment Program (CAP) and 5) Environmental Contaminants Data Management System (ECDMS). ECOS data is shared within and across Program areas. Mapping capabilities are also available using spatially referenced (GIS) data.

When I wear my CTO hat, I ensure that the computers function for the ES personnel by coordinating services with IRTM. IT Team members Angela Harris and Garland Alston provide computer support to all ES personnel and many FHC customers. Michael Franz is the database manager for the TESS application in ECOS. We have a synergistic relationship with IRTM through a myriad of communication with its knowledgeable staff. We like to share information to support a cross-pollination of knowledge so that we all learn techniques and innovations that result in higher performance levels and satisfied customers. For example, Travel Manager Program expert Angela Harris provides customer support and advises the IRTM Division on Travel Manager problems.

Our biggest challenge is to understand what the customer truly wants and needs and then provide it! We analyze the customer's requirements per the customer's request. Then we propose a solution that best meets the customer's needs. My best advice is to talk with your customers and get to know them well. In this job, I am truly fortunate in that I have the opportunity to learn more about both ES and FHC in depth. The more I learn, the better my solutions are.

I enjoy the collegial relationship among the CTOs. We share our experiences and our knowledge and support each other. The collaborative exchange with national team members to develop desktop standards or plan for the deployment of Active Directory Services has been very interesting. To understand the big picture, it is enlightening to know what the regional CTOs are doing.

I love my job and I love the Fish and Wildlife Service. I have been with the Service about six years but I still feel like a new employee. Every day I learn more about endangered species, how the FWS works, and new technology!